



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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D205-596-105
Job Sheet 193048



Part No: D205-596-105

Job Qty: 1 pcs

Part Name: Fwd Crosstube - Extended Height 31"



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 4/8/19

Job Tracking No:

Due Date: 5/24/19

Created By: Marie Lajeunesse

Type: Stock

Description: *order 15019*

Note: D205-596-105 REV:C IPP Rev:D 05.03.21 Added bending procedure KJ/JLM IPP Rev:E 08-01-10 ECN 1075
DD IPP Rev F 08.04.28 Added bending & mat'l EC verified by: DD IPP rev G 10.05.27 chg QC15 to QC6 EC
verified by: DD IPP REV:H 13.11.29 as per dwg DEO B-2 DD VERF:JLM IPP REV:I 18.02.08 AS PER DWG
REV:C DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
105	Crosstubes - 1	1 pcs		5/24/19	0.00	0.00	Crosstubes - 1		<i>GP 19-04-12.</i>
							Crosstubes - 2		
							Crosstubes - 3		
							Crosstubes - 4		
107	QC 7	1 pcs		5/24/19	0.00	0.00	QC 7 - 10		<i>DAS</i> <i>APR 12 2019 68</i> <i>9-89</i>
							QC 7 - 13		
							QC 7 - 14		
							QC 7 - 15		
							QC 7 - 17		
							QC 7 - 18		
							QC 7 - 19		
							QC 7 - 2		
							QC 7 - 28		
							QC 7 - 3		
							QC 7 - 30		
							QC 7 - 34		
							QC 7 - 36		
							QC 7 - 37		
							QC 7 - 41		
							QC 7 - 47		
							QC 7 - 48		
							QC 7 - 51		
							QC 7 - 58		
							QC 7 - 59		
							QC 7 - 60		
							QC 7 - 9		
							QC 7 - 68		
							QC 7 - 50		
							QC 7 - 67		

Plex 4/8/19 8:11 AM Dart.lajeunesse.marie



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Container No: S172006



Part: D205-596-105

Job No: 193048

Serial No/Batch: S172006

Revision: C

Inspector:

Exp Date:

Instructions: TC STC SH03-6 Issue 4, FAA STC SR01742NY 13/11/04, EASA ST

					QC 7 - 40	
110	Crosstubes - Bend - 2 - B4B	1 pcs	5/24/19	0.00 0.39	Crosstubes - Bend - B4B	GP 19-04-18.
130	QC 15	1 pcs	5/24/19	0.00 0.00	QC 15 - 12	
					QC 15 - 3	
					QC 15 - 47	
					QC 15 - 49	
					QC 15 - 58	
					QC 15 - 9	
140	Crosstubes - 2 - B4B	1 pcs	5/24/19	0.00 0.00	Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	GP 19-04-23
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
150	Crosstubes - 3 - B4B	1 pcs	5/24/19	0.00 0.00	Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	GP 19-04-23.
					Crosstubes - 4 - B4B	
155	QC 7	1 pcs	5/24/19	0.00 0.00	QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	
					QC 7 - 9	
					QC 7 - 68	DAS
					QC 7 - 50	APR 24 2019 68
					QC 7 - 67	9-89
					QC 7 - 40	
160	QC 5	1 pcs	5/24/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	DAS
					QC 5 - 9	APR 24 2019 68
					QC 5 - 50	9-89
					QC 5 - 30	
					QC 5 - 40	

170	Spray Paint - 2 - B4B	1 pcs	5/24/19	0.00 0.00	Spray Paint - 1 - B4B	A8 19-4-25
					Spray Paint - 2 - B4B	
					Spray Paint - 3 - B4B	
					Spray Paint - 4 - B4B	
180	QC 14	1 pcs	5/24/19	0.00 0.00	QC 14 - 15	DAS APR 29 2019 68 9-89
					QC 14 - 2	
					QC 14 - 34	
					QC 14 - 41	
					QC 14 - 51	
					QC 14 - 58	
					QC 14 - 59	
					QC 14 - 9	
					QC 14 - 68	
					QC 14 - 40	
					QC 14 - 19	
190	Crosstubes - 4 - B4B	1 pcs	5/24/19	0.00 0.00	Crosstubes - 1 - B4B	A8 19-4-26
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
200	QC 5	1 pcs	5/24/19	0.00 0.00	QC 5 - 10	DAS APR 29 2019 68 9-89
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
210	Packaging 3-1 - Stock - B4B	1 pcs	5/24/19	0.00 0.00	Packaging 3 - 1 - B4B	DAS 46 APR 30 2019 9-89
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	

				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
215 DC - 1 - B4B	1 pcs	5/24/19	0.00 0.00	DC - 1 - B4B	DAG 21 APR 30 2019
				DC - 2 - B4B	21
220 QC 21 - FG	1 pcs	5/24/19	0.00 0.00	QC 21 - FG - 21	9-39
				QC 21 - FG - 70	DAG
				QC 21 - SA - 53	21 9-39 APR 30 2019

Part Op 105 - (Crosstubes Chemical Conversion)INSIDE AND OUT
 Descriptions: 107 - (QC7-Inspect Chemical Conversion Coat)
 110 - (CNC Alpha 160 Bender)Bend as per Dwg D2889 using CNC bender program
 130 - (QC15- Crosstube Dimensional Check)
 140 - (Crosstubes)1-Cut as per Dwg D205-596-105 2-*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***
 Deburr & Inspect for surface damage. Polish cut surface.Scribe part # and batch # on one end of tube.
 150 - (Crosstubes)***IMMEDIATELY AFTER GRINDING***
 155 - (QC7-Inspect Chemical Conversion Coat)
 160 - (QC5- Inspect part completeness to step on W/O)
 170 - (Spray Paint / NDT Room)*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1-Prime inside and outside as per dwg and per QSI 005 4.1 Batch: 5143304 2- Paint outside per QSI 005 4.2
 Batch: 5166819
 180 - (QC14- Inspect Spray Paint)
 190 - (Crosstubes)1- Lightly scuff the bonded area using a 180 grit sand paper and clean the area with 41058 wash 'n' wipe 2- Apply Proseal as per dwg D205-596-105. 3- Install clamps as per dwg (Note 12)Torque clamps 80 to 100 in-lb as per dwg and Note 13) 5146134
 200 - (QC5- Inspect part completeness to step on W/O)***PRIOR TO PACKAGING RECHECK TORQUE ON CLAMPS AFTER PROSEAL HAS CURED 72HOURS.***
 210 - (Identify as per dwg & Stock Location: _____)Identify and pack for shipping as per PPP D205-596-105
 215 - (Document Control)Photocopy D205-594 bluefile & type labels per PPP D205-596-105 CHG003
 220 - QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6005-180	Crosstube Material	1 Ea (1 ea)	105-Crosstubes - 1	
D2893-1	Support	2 pcs (2 ea)	190-Crosstubes - 4 - B4B	
D3595-063-450	Rubber Cushion 0.63" Wide X 4.50" Long	4 pcs (4 ea)	190-Crosstubes - 4 - B4B	
MS21920-25	Clamp	4 Ea (4 ea)	190-Crosstubes - 4 - B4B	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
105-Crosstubes - 1	D6005-180	1	6	0
190-Crosstubes - 4 - B4B	D2893-1 <u>5167970</u>	②	15	0
	D3595-063-450 <u>5150042</u> ①	# <u>5167855</u> ③	59	0
	MS21920-25 <u>5142130</u>	④	65	0

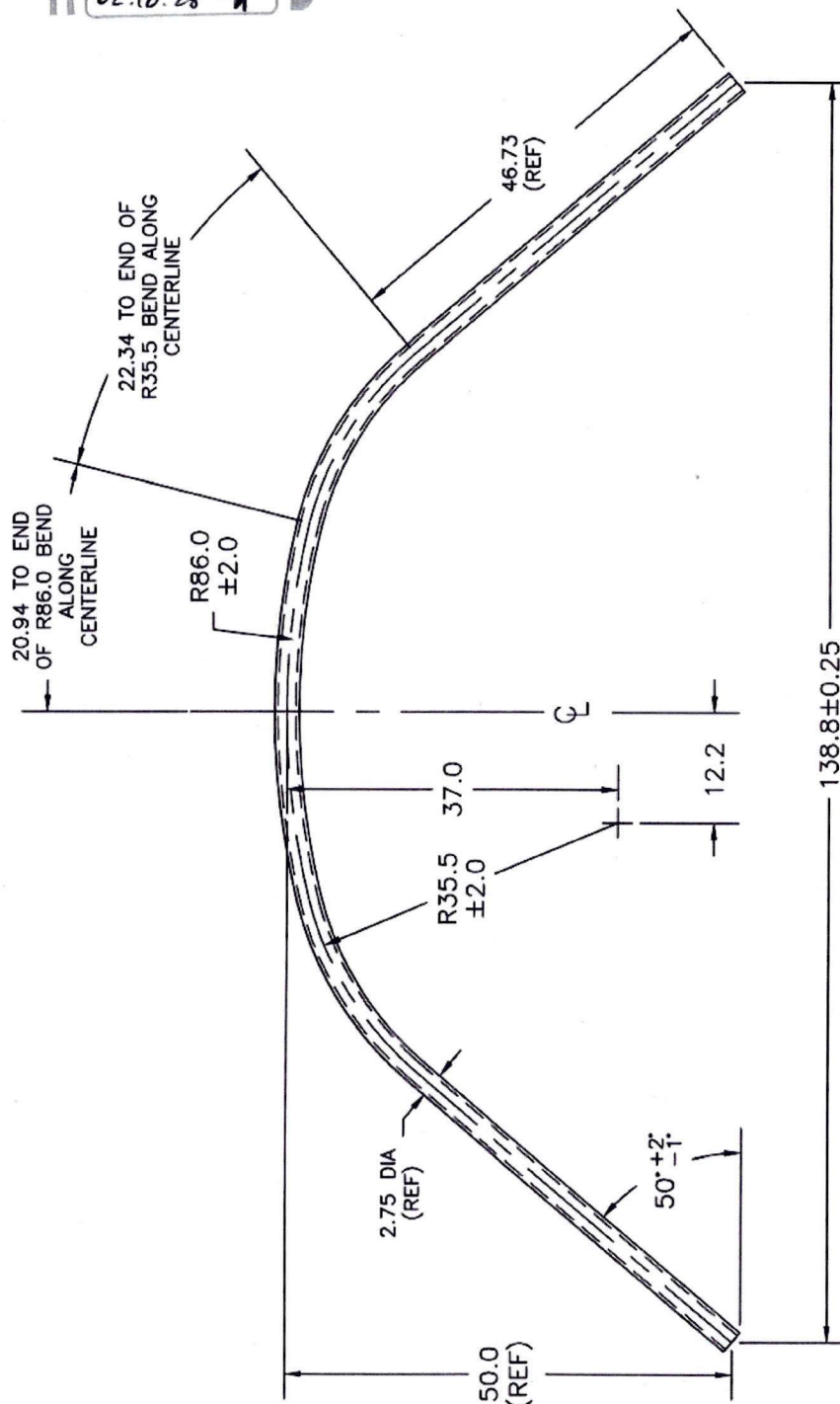
Part Specifications

Specifications could not be found.

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DART

DESIGN #	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2889	REV. B SHEET 1 OF 1
DATE 02.10.18		TITLE FWD CROSSTUBE	SCALE 1:20
A	99.05.21	NEW ISSUE	
B	02.10.18	ADD TANGENT LENGTHS; CHANGE NOTES	

RELEASED
02.10.28

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 193048 MJS
19-04-08

NOTES

- 1) MATERIAL: MANUFACTURE FROM D6005-180 ($\phi 2.75$ OD x 0.375 WALL)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) BEND PROGRESSIVELY WITH MINIMUM OF 3 PASSES
- 6) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

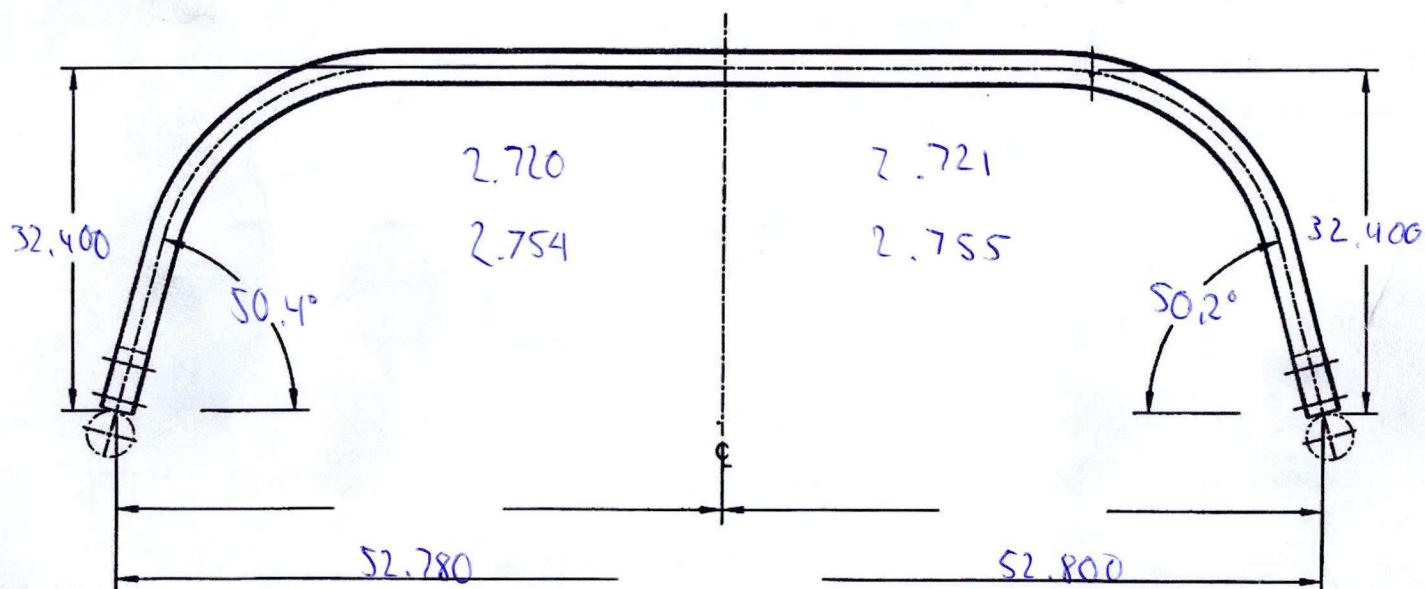
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

DART AEROSPACE LTD	Work Order:	193048
Description: Crosstube High-High Fwd	Part Number:	D205-596-105
Inspection Dwg: D205-596-105 Rev: C		Page 1 of 1

Required Dimension	Min	Max
Height	32.4	32.6
1/2 Span	54.6	54.8
Angle	49	52
Total Span	109.2	109.6
Bending Passes	3	--
Crushing	--	6%



	Side A	Side B
Bending Passes		
Crushing	0.6% (handwritten)	0.6% (handwritten)
Comments		

QC15 Inspection	
Date	18-04-18 (handwritten)

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	
C	12.04.16	Added bending, crushing dimensions	KJ	
D	18.05.24	Dwg Rev updated	MC (handwritten)	MA (handwritten)